



Carcinoid Tumours in Gastroenterology

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Editorial

A carcinoid (also carcinoid tumor) is a slow-growing type of neuroendocrine tumor originating in the cells of the neuroendocrine system. In some cases, metastasis may occur. Carcinoid tumors of the midgut (jejunum, ileum, appendix, and cecum) are associated with carcinoid syndrome. Carcinoid tumors are the most common malignant tumor of the appendix, but they are most commonly associated with the small intestine, and they can also be found in the rectum and stomach. They are known to grow in the liver, but this finding is usually a manifestation of metastatic disease from a primary carcinoid occurring elsewhere in the body. They have a very slow growth rate compared to most malignant tumors. The median age at diagnosis for all patients with neuroendocrine tumors is 63 years. While most carcinoids are asymptomatic through the natural lifetime and are discovered only upon surgery for unrelated reasons (so-called coincidental carcinoids), all carcinoids are considered to have malignant potential. About 10% of carcinoids secrete excessive levels of a range of hormones, most notably serotonin (5-HT), causing: Flushing (serotonin itself does not cause flushing). Potential causes of flushing in carcinoid syndrome include bradykinins, prostaglandins, tachykinins, substance P, and/or histamine, diarrhea, and heart problems. Because of serotonin's growth-promoting effect on cardiac myocytes, a serotonin-secreting carcinoid tumor may cause a tricuspid valve disease syndrome, due to the proliferation of myocytes onto the valve.

The outflow of serotonin can cause a depletion of tryptophan leading to niacin deficiency. Niacin deficiency, also known as pellagra, is associated with dermatitis, dementia, and diarrhea. This constellation of symptoms is called carcinoid syndrome or (if acute) carcinoid crisis. Occasionally, hemorrhage or the effects of tumor bulk are the presenting symptoms. The most common originating sites of carcinoid is the small bowel, particularly the ileum; carcinoid tumors are the most common malignancy of the appendix. Carcinoid tumors may rarely arise from the ovary or thymus.

Carcinoid tumors arise from neuroendocrine cells found in the mucosa layer of the gastrointestinal tract (GIT). However, the common locations in descending order of frequency are: appendix, ileum, rectum, colon and the stomach. The normal neuroendocrine cells produce polypeptide hormones and biogenic amines; the tumors may do likewise. Benign appendiceal carcinoid tumors of less than 2.0 cm are common incidental findings during appendectomy and at autopsy, with the tip as the part commonly involved in the tumor. Malignant transformation of the benign carcinoid tumor is rare, but does occur in tumors with diameter greater than 2.0 cm; however, these are much less common than carcinomas.

The average age at presentation of carcinoid tumors of the GIT is 55 years, they are rare in the teens and increase in frequency thereafter. However, those of the appendix have been reported to occur in relatively younger age groups. Most cases of appendiceal carcinoid tumors (benign or malignant) are asymptomatic. Symptomatic cases commonly present with clinical features of a complicated disease, such as intestinal obstruction and the carcinoid syndrome.

There are few publications in Ghana which mention carcinoid tumors. However, these publications did not give much attention to the clinic-pathological features of this tumor as an entity, or highlight the possible complications of the disease. A malignant appendiceal carcinoid tumor in a 43-year male with caecal obstruction and perforation is presented in this case report. The aim of this presentation is to remind clinicians that some rare lesions of the appendix may be masked by the exhibition of signs and symptoms of acute appendicitis; and also to lay emphasis on the need for adequate clinical assessment, including imaging and histopathological examination of appendiceal specimen removed at surgery.

A hemicolectomy is an operation where one section of the colon (large intestine) is removed. Some people who have this surgery may need a stoma - an opening on the surface of the tummy connected to the bowel. The usual reasons for hemicolectomy are bowel cancer, polyps, diverticulitis, inflammatory bowel disease or an abdominal injury. A hemicolectomy is major surgery. It will take some time to get over it. When you wake, you'll have a drip in your arm and you'll feel drowsy. You'll be given medicine to relieve pain, and perhaps antibiotics to prevent infection. You'll probably feel tired and weak after a hemicolectomy. It can take a few weeks to feel better. Your doctor can advise you how much time you may need off work. Some people experience constipation or diarrhoea after surgery. Let your doctor know if you are having problems. You may need to stay in hospital for about 10 days. If you had keyhole surgery, your stay might be shorter. A hemicolectomy is a significant operation with significant risks. Some people have bleeding or infection after surgery. It is also possible for the surgery to damage other organs in the abdomen, or for the bowel to leak. Some people get blood clots in the legs or lungs. If you have this surgery and notice any problems, call your doctor or go quickly to the hospital emergency department.

The gastrointestinal tract (digestive tract, alimentary canal, digestion tract, GI tract, GIT) is an organ system within humans and other animals which takes in food, digests it to extract and absorb energy and nutrients, and expels the remaining waste as feces. The mouth, esophagus, stomach and intestines are part of the gastrointestinal tract. Gastrointestinal is an adjective meaning of or pertaining to the stomach and intestines. A tract is a collection of related anatomic structures or a series of connected body organs.

All bilaterians have a gastrointestinal tract, also called a gut or an alimentary canal. This is a tube that transfers food to the organs of digestion. In large bilaterians, the gastrointestinal tract also has an exit, the anus, by which the animal disposes of feces (solid wastes). Some small bilaterians have no anus and dispose of solid wastes by other means (for example, through the mouth). The human gastrointestinal tract consists of the esophagus, stomach, and intestines, and is divided into the upper and lower gastrointestinal tracts. The GI tract includes all structures between the mouth and the anus, forming a continuous passageway that includes the main organs of digestion, namely, the stomach, small intestine, and large intestine. However, the complete

human digestive system is made up of the gastrointestinal tract plus the accessory organs of digestion (the tongue, salivary glands, pancreas, liver and gallbladder). The tract may also be divided into foregut, midgut, and hindgut, reflecting the embryological origin of each segment. The whole human GI tract is about nine meters (30 feet) long at autopsy. It is considerably shorter in the living body because the intestines, which are tubes of smooth muscle tissue, maintain constant muscle tone in a halfway-tense state but can relax in spots to allow for local distention and peristalsis.

The gastrointestinal tract contains trillions of microbes, with some 4,000 different strains of bacteria having diverse roles in maintenance of immune health and metabolism. Cells of the GI tract release hormones to help regulate the digestive process. These digestive

hormones, including gastrin, secretin, cholecystokinin, and ghrelin, are mediated through either intracrine or autocrine mechanisms, indicating that the cells releasing these hormones are conserved structures throughout evolution.

The lower gastrointestinal tract includes most of the small intestine and all of the large intestine. In human anatomy, the intestine (bowel, or gut. Greek: enteral) is the segment of the gastrointestinal tract extending from the pyloric sphincter of the stomach to the anus and, as in other mammals, consists of two segments, the small intestine and the large intestine. In humans, the small intestine is further subdivided into the duodenum, jejunum and ileum while the large intestine is subdivided into the, cecum, ascending, transverse, descending and sigmoid colon, rectum, and anal canal.